FINANCING GROWTH AND IMPAIRED FINANCING: A STUDY ON MALAYSIAN ISLAMIC BANKS

NABILAH WAFA' BINTI MOHD NAJIB

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FINANCING GROWTH AND IMPAIRED FINANCING: A STUDY ON MALAYSIAN ISLAMIC BANKS

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NABILAH WAFA' BINTI MOHD NAJIB

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ABSTRAK

Perbankan Islam di Malaysia telah mencatatkan pertumbuhan yang amat memberangsangkan semenjak dua dekad yang lalu. Namun begitu, tahap pertumbuhan bagi pembiayaan perbankan Islam telah mengalami kemerosotan sejak tahun kebelakangan ini disebabkan oleh beberapa faktor. Tujuan utama kajian ini adalah untuk mengkaji hubungan antara pertumbuhan pembiayaan dan pembiayaan terjejas. Selain itu, kajian ini juga dijalankan bagi mengkaji lain-lain faktor penentu kepada pertumbuhan pembiayaan seperti nisbah modal (CAP), saiz bank (SIZE), keluaran dalaman kasar (GDP), kadar inflasi (INF) dan juga kadar faedah (OPR). Ia dijalankan kerana melihat kepada kepentingan pertumbuhan pembiayaan terhadap perbankan Islam dan limitasi kajian-kajian lepas untuk menentukan dengan jelas faktor-faktor yang menyumbang kepada pembiayaan pertumbuhan bank-bank Islam di Malaysia. Data sekunder telah digunakan daripada 16 buah bank Islam di Malaysia bagi tempoh 2012 – 2016 (80 pemerhatian). Kajian ini menggunakan teknik analisis seperti Statistik Deskriptif, Matriks Kolerasi, Ujian Diagnostik, Ujian Data Panel dan Analisis Regresi Pelbagai. Hasil kajian mendapati bahawa faktor-faktor luaran dan dalaman iaitu GDP, INF, IF dan CAP mempunyai kesan yang signifikan dalam mempengaruhi pertumbuhan pembiayaan bank-bank Islam di Malaysia. Manakala, SIZE dan OPR tidak mempunyai kesan yang signifikan terhadap pertumbuhan pembiayaan. Hasil kajian ini menyediakan bukti-bukti statistik bahawa peningkatan dalam pembiayaan terjejas akan mengurangkan pertumbuhan pembiayaan. Oleh itu, pengkaji memberikan beberapa cadangan bagi pihak bank dan badan penyelaras agar meminimumkan tahap pembiayaan terjejas dan seterusnya membolehkan kadar pertumbuhan pembiayaan bank-bank Islam di Malaysia untuk berkembang.

Kata Kunci: Perbankan Islam, pertumbuhan pembiayaan, pembiayaan terjejas

ABSTRACT

Islamic banking in Malaysia has recorded tremendous development and growth in the last two decades. However, the level of financing growth of Islamic banks has experienced a declination in the recent years due to several factors. The main purpose of this research is to examine the relationship between financing growth and impaired financing particularly. At the same time, it attempts to investigate other determinants of financing growth such as capital (CAP), bank size (SIZE), gross domestic product (GDP), inflation (INF) and overnight policy rate (OPR). This is due to the importance of financing growth towards Islamic banks and lack of empirical research to distinctly establish the determinants of financing growth, especially in Malaysian Islamic banks. The secondary data was used from 16 Islamic banks in Malaysia over the 2012 – 2016 period (80 observations). This study employs Descriptive Statistics, Correlation Analysis, Diagnostic Tests, Panel Data Test and Multiple Regression Analysis as data analysis. The study reveals that external and internal factors, namely GDP, INF, IF and CAP are significantly influencing the financing growth of Malaysian Islamic banks. On the other hand, SIZE and OPR have no significant impact on the financing growth. The results provide statistical evidence that an increase in impaired financing reduces Islamic banks' financing growth. Hence, the researcher suggests several recommendations to bankers and body regulations in order to minimize the level of impaired financing and thus, enabling the expansion of financing growth level in Malaysian Islamic banks.

Keywords: Islamic banks, financing growth, impaired financing

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LIST OF ABBREVIATIONS

AIBIM	Association of Islamic Banking Institution Malaysia
BIMB	Bank Islam Malaysia Berhad
BNM	Bank Negara Malaysia
CAP	Capital
CEE	Central and Eastern Europe
EURIBOR	Euro Interbank Offer Rate
FEM	Fixed Effect Model
FGROWTH	Financing Growth
GDP	Gross Domestic Product
GLS	Generalized Least Square
IF	Impaired Financing
INF	Inflation
KFH	Kuwait Finance House
MOF	Ministry of Finance
NPL	Non-Performing Loan
OLS	Ordinary Least Squares
OPR	Overnight Policy Rate
REM	Random Effects Model
SIZE	Bank Size
VIF	Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The research aims to investigate the relationship between financing growth and impaired financing as well as to examine other determinants influencing financing growth of Malaysian Islamic banks. Hence, this research will study on the determinants of Islamic banks financing growth in Malaysia. This chapter comprises of the background of the study to provide a general discussion with regards to selected topic, research problem in order to discuss on arising issue, research questions and research objectives as a guideline to this topic. Besides that, the significance of study, scope and limitation and organization of study will be covered in this chapter too.

1.1 Background of the Study

The history of Islamic banking in Malaysia had started from the establishment of Tabung Haji in 1963 (Mokhtar et al., 2008). Meanwhile, Bank Islam Malaysia Berhad (BIMB) which established in 1983 has been recorded as the first Islamic bank in Malaysia. According to Laldin (2008), the progress of bank was very active and rapidly growing and developing. Thereafter, Malaysia has emerged and recognized worldwide as the first country to actualize the dual banking system which Islamic banks operate side-by-side with the conventional banking system. The implementation has intrigued numerous countries to adopt the dual banking system in their respective countries (Mokhtar et al, 2008).

Islamic banks play the same function like conventional banking as a financial intermediary. Islamic banking system in Malaysia currently consists of 16 banking institutions, which offer several Islamic financial products and services. Today, Islamic

REFERENCES

Abduh, A., & Alias, A. (2014). Factors Determine Islamic Banking Performance in Malaysia: A Multiple Regression Approach. *Journal of Islamic Banking and Finance,* Jan.- March. 2014.

Abduh, M., & Idrees, Y. (2013). Determinants of Islamic Banking Profitability in Malaysia. *Australian Journal of Basic and Applied Sciences,* 7(2): 204-210, 2013.

Adries, A. M. (2009). Theories regarding financial intermediation and financial intermediaries – a survey. *The USV Annals of Economics and Public Administration 9* (2), 254-261.

Agha, S. E. U., & Sabirzyanov, R. (2015). Risk Management in Islamic Finance: An Analysis from Objectives of Shari'ah Perspective. *International Journal of Business, Economics and Law,* Vol. 7, Issue 3 (Aug.)

Aisen, A., & Franken, M. (2009). Bank Credit and the 2008 Financial Crisis: A Cross-Country Comparison. *SSRN Electronic Journal.*

Al-Khouri, R. (2012). Bank Characteristics and Liquidity Transformation: The Case of GCC Banks. *International Journal of Economics and Finance, 4*(12).

Al-Qur'an al-Kareem.

Albulescu, C. T. (2009). *Forecasting credit growth rate in Romania: from credit boom to credit crunch?* MPRA Paper No. 16740.

Ali, A., & Ghauri, S. P. (2013). Global Crisis and Credit Risk Management by Banks: A Comparative Study of Banks in Pakistan. *International Journal of Business and Economics Research, 2*(6), 158.

Allen, F., & Santomero, A. M. (1998). The theory of financial intermediation. *Journal of Banking and Finance*, Vol. 21 pp. 1461-1485.

Augustine, B. D. (2017, July 23). *Loan impairments slowing asset growth and profits of banks*. Retrieved from https://gulfnews.com/business/sectors/banking/loan-impairments-slowing-asset-growth-and-profits-of-banks-1.2062954.

Awdeh, A. (2016). The Determinants of Credit Growth in Lebanon. *International Business Research, 10*(2), 9.

Aydin, B. (2008). *Banking Structure and Credit Growth in Central and Eastern European Countries.* IMF Working Papers, 08(215), 1.

Bank Negara Malaysia (BNM). (2011). *Classification and Impairment Provision for Loans/Financing.* Prudential Financial Policy Department, Islamic Banking and Takaful Department. BNM/RH/GL 007-17.

Bank Negara Malaysia (BNM). (n.d.). *Monthly Highlights & Statistics.* Retrieved from http://www.bnm.gov.my/index.php?ch=en_publication&pub=msbarc.

Berger, A. N., & Deyoung, R. (1996). Problem Loans and Cost Efficiency in Commercial Banks. *SSRN Electronic Journal*.

Brooks, C. (2008). *Introductory econometrics for finance*. Cambridge: Cambridge University. Press.

Chen, G., & Wu, Y. (2014). *Bank Ownership and Credit Growth in Emerging Markets During and After the 2008-09 Financial Crisis-a Cross Regional Comparison*. IMF Working Papers, 14(171), 1.

Chong, B. S., & Liu, M. H. (2009). "Islamic Banking: Interest-Free or Interest-Based?" *Pacific-Basin Finance Journal 17*(1) (2009): 124-144.

Diamond, D. (1984). Financial intermediation and delegated monitoring. *Review of Economic Studies*, 51, 393-414.

Elekdag, S., & Han, F. (2012). *"What drives credit growth in emerging Asia?"*, International Monetary Fund Working Paper, No. 12/43.

Ernst, & Young. (2016). *World Islamic banking competitiveness report*. United Kingdom: EYGM Limited.

Fitch Connect Database, Fitch Solution LTD (FITCH).

Foos, D., Norden, L., & Weber, M. (2010). Loan growth and riskiness of banks. *Journal of Banking & Finance, 34*(12), 2929-2940.

Ghosh, S. (2010). Credit Growth, Bank Soundness and Financial Fragility. *South Asia Economic Journal,11*(1), 69-98.

GIFR. (2016). *Global Islamic Finance Report*. Retrieved from http://www.gifr.net/gifr_2016.htm.

Gujarati**,** D. N., & Porter, D. C. (2010). *Basic econometrics*. Boston: McGraw-Hill Irwin.

Guo, K., & Stepanyan V. (2011). *Determinants of bank credit in emerging market economies.* IMF Working Paper no 51: 1-20.

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate Data Analysis, sixth edition.* New Jersey: Pearson.

Haneef, S., Riaz, T., Ramzan, M., Rana, M. A., Ishaq, H. M., & Karim, Y. (2012). Impact of Risk Management on Non-Performing Loans and Profitability of Banking Sector of Pakistan. *International Journal of Business and Social Science Journal*. Vol. 3 No. 7; April 2012.

Hasan**,** Z. (2015). *Risk Sharing versus risk transfer in Islamic finance*. MPRA Paper 62847, University Library of Munich, Germany.

Hauke, J., & Kossowski, T. (2011). Comparison of Values of Pearsons and Spearmans Correlation Coefficients on the Same Sets of Data. *Quaestiones Geographicae*, *30*(2).

Hsiao, C. (2006). Panel Data Analysis - Advantages and Challenges. *SSRN Electronic Journal.*

Igan, D., & Tan, Z. (2015). *Capital Inflows, Credit Growth, and Financial Systems*. IMF Working Papers, 15(193), 1.

Isa**,** M. Y. (2014). Islamic Banks Impaired Financing: Relationship Between Shariah Frequency and Shariah Risks Compliance on Assets Quality. *Journal of Statistical Science and Application, 2*(2).

Ivanović, M. (2016). Determinants of Credit Growth: The Case of Montenegro. *Journal of Central Banking Theory and Practice,* 2016, 2, pp. 101-118.

Karim, M. Z., Chan, S., & Hassan, S. (2010). Bank Efficiency and Non-Performing Loans: Evidence from Malaysia and Singapore. *Prague Economic Papers, 19*(2), 118-132.

Kim, D., & Sohn, W. (2017). The effect of bank capital on lending: Does liquidity *matter? Journal of Banking & Finance,* 77, 95-107.

Kira, A. R. (2013). The Factors Affecting Gross Domestic Product (GDP) in Developing Countries: The Case of Tanzania. *European Journal of Business and Management*, Vol.5, No.4, 2013.

Labonne, C., & Lamé, G. (2014). *Credit Growth and Bank Capital Requirements: Binding or Not?* Banque de France Working Paper No. 481. Paris: French Ministry of Finance.

Laidroo, L. (2014). *Lending Growth and Cyclicality in Central and Eastern European Banks*. TUTECON Working Paper No. WP-2014/4.

Laldin, M. A. (2008), "Islamic financial system: the Malaysian experience and the way forward", *Humanomics,* Vol. 24 No. 3, pp. 217-238.

Mačerinskienė, I., Ivaškevičiūtė, L., & Railienė, G. (2014). The Financial Crisis Impact on Credit Risk Management in Commercial Banks. *KSI Transactions on Knowledge Society,* Volume VII, Number 1, March 2014.

Malimi, K. (2017). The Influence of Capital Adequacy, Profitability, and Loan Growth on Non-Performing Loans a Case of Tanzanian Banking Sector. *International Journal of Economics, Business and Management Studies, 4*(1), 38-49.

Mat Nor, A. (2015). *The Determinants of Impaired Financing: Comparative Analysis on Islamic Banks in Malaysia and MENA countries.* Unpublished Doctor of Philosophy Thesis, University Utara Malaysia.

Mat Nor, A., & Ahmad, N. H. (2015). Impaired Financing Determinants of Islamic Banks in Malaysia. *Information Management and Business Review*, Vol. 7, No. 3, pp. 17-25, June 2015.

Md. Taib, F., Ramayah, T., & Razak, D. A. (2008) "Factor Influencing Intention to Use Diminishing Partnership Home Financing. *International Journal of Islamic and Middle Eastern Finance and Management 1*(3) (2008): 235-248.

Miyajima, K. (2017). *What influences bank lending in Saudi Arabia?* Washington, D.C: International Monetary Fund, Middle East and Central Asia Dept.

Mohamad, M. T. (2014). Financing Growth within the constraints of monetary policy and the economic environment: A case study of the Malaysian Islamic banks. *Online Journal of Research in Islamic Studies 1*(3) (2014): 9-22.

Mokhtar, H. S. A., Abdullah, N., & Alhabshi, S.M. (2008), "Efficiency and competition of Islamic banking in Malaysia", *Humanomis*, Vol. 24 No. 1, pp. 28-48.

Mokhtar, M., & Zakaria, Z. (2009). Classification and management of impaired loans of. Islamic banks and conventional banks: A comparative study. *Journal Teknologi, 51*(E), Dis. 2009: 31-56.

Moussa, M. A., & Chedia, H. (2016). Determinants of Bank Lending: Case of Tunisia. *International Journal of Finance and Accounting,* 2016, 5(1): 27-36.

Nordin, S., & Zainuddin, Z. (2016). *The basics of Islamic finance with applications in Malaysia*. Sintok: Penerbit Universiti Utara Malaysia.

Olszak, M., Pipień, M., & Roszkowska, S. (2016). The impact of capital ratio on lending of EU banks – the role of bank specialization and capitalization. *Equilibrium, 11*(1), 43.

Opoku-Agyemang, D. A. (2015). *Factors Infuencing The Profitability of Domestic and Foreign Banks in Ghana*. Master thesis, Aarhus University.

Osei-Assibey, E., & Asenso, J. K. (2015). Regulatory capital and its effect on credit growth, non-performing loans and bank efficiency. *Journal of Financial Economic Policy,* Vol. 7 Iss 4 pp. 401-420.

Othman, A., Sari, N. M., Alhabshi, O., & Mirakhor, A. (2017). *Macroeconomic policy and Islamic finance in Malaysia*. New York, NY, U.S.A.: Palgrave Macmillan.

Ozili, P. K. (2017). Non-Performing Loans and Financial Development: New Evidence. *SSRN Electronic Journal.*

Pallant, J. (2010). *SPSS survival manual*. Maidenhead: Open Univ. Press.

Panagopoulos, Y., & Spiliotis, A. (1998). The determinants of commercial banks' lending. behavior: some evidence for Greece. *Journal of Post Keynesian Economics, 20* (4):649-672.

Pham, T. H. H. (2015). *Determinants of Bank Lending*. hal-01158241.

Radiah, A. K., & Leong, Y. K. (2009). The Impact of Interest Rate Changes on Islamic Bank Financing. *International Review of Business Research Papers*, Vol. 5 No. 3 April 2009 Pp. 189-201.

Reyes, N. R., Gómez-González, J. E., & Ojeda-Joya, J. (2014). Bank lending, risk taking, and the transmission of monetary policy: New evidence for an emerging economy. *Macroeconomics and Finance in Emerging Market Economies, 8*(1-2), 67-80.

Samantaraya, A. (2009). An Empirical Analysis of Pro-cyclicality of Bank Credit in India: Role of Basel Prudential Norms. *Indian Journal of Capital Market,* Vol. III, Issue I, April-June 2009, PP. 28 – 37.

Scholtens, L. J., & Wensveen, D. V. (2003). *The theory of financial intermediation: An on what it does (not) explain*. Vienna: SUERF.

Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill-building approach*. Chichester: J. Wiley & Sons.

Shafique, A., Faheem, M. A., & Abdullah, I. (2012). Impact of Global Financial Crises on the Islamic Banking System : Analysis of Islamic Financial System During Financial Crunch 2008. *Oman Chapter of Arabian Journal of Business and Management Review, 1*(9), 124-134.

Shingjergji, A., & Hyseni, M. (2015). The Impact of Macroeconomic and Banking Factors on Credit Growth in the Albanian Banking System. *European Journal of Economics and Business Studies, 2*(1), 113.

Tahir, S. H., Shehzadi, I., Ali, I., & Ullah, M. R. (2015). Impact of Bank Lending on Economics Growth in Pakistan: An Empirical Study of Lending to Private Sector. *American Journal of Industrial and Business Management, 05*(08), 565-576.

Tang, T. C. (1999). *Commercial Banks Lending And Economic Growth In Malaysia : An Empirical Study*. Master thesis, Universiti Utara Malaysia.

The Edge Markets. (2018). Malaysia was largest sukuk issuer globally in 2017. Retrieved from http://www.theedgemarkets.com/article/malaysia-was-largest-sukuk-issuer-globally-2017.

The Star Online. (2017). Local Islamic financing market still on growth path. Retrieved from https://www.thestar.com.my/business/business-news/2017/02/21/local-islamic-financing- market-still-on-growth-path/

Thompson, C. B. (2009). Basics of research (Part 13): Descriptive Data Analysis, *Air Medical Journal*, Volume 28, Issue 2, Pages 56–59.

Understand what is OPR and how it affects us. (n.d.). Retrieved from *https://www.exchangerate.my/pages/Understand-what-is-OPR-and-how-it-affects-us.*

Vinh, N. T. (2017). The impact of non-performing loans on bank profitability and lending behavior: Evidence from Vietnam. *Journal of Economics Development*, *24*(3), 27-44.

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. Cambridge, MA: MIT Press.

World Development Indicators | DataBank. (n.d.). Retrieved from http://databank.worldbank.org/data/reports.aspx?Code=CHN&id=556d8fa6&report_name=Popular_countries&populartype=country&ispopular=y.

Yakob, N. A., Tzeng, Y. Y., & Mcgowan, J. C. (2014). Overnight Policy Rate Changes and Stock Market Reactions –The Experience in Malaysia. *Accounting and Finance Research 3*(3).

Zemel, M. (2018). The Information Content of Loan Growth in Banks. *Quarterly Journal of Finance,* Vol. 8, No. 2 (2018).

APPENDICES

Appendix A (List of Islamic banks in Malaysia)

No.	Institution Name	Type and Year of Incorporation
1	Affin Islamic Bank Berhad	Local, 2005
2	Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	Foreign, 2006
3	Alliance Islamic Bank Berhad	Local, 2007
4	AmBank Islamic Berhad	Local, 2006
5	Asian Finance Bank Berhad	Foreign, 2005
6	Bank Islam Malaysia Berhad	Local, 1983
7	Bank Muamalat Malaysia Berhad	Local, 1999
8	CIMB Islamic Bank Berhad	Local, 2006
9	HSBC Amanah Malaysia Berhad	Foreign, 2008
10	Hong Leong Islamic Bank Berhad	Local, 2005
11	Kuwait Finance House (Malaysia) Berhad	Foreign, 2005
12	Maybank Islamic Berhad	Local, 2008
13	OCBC Al-Amin Bank Berhad	Foreign, 2008
14	Public Islamic Bank Berhad	Local, 2008
15	RHB Islamic Bank Berhad	Local, 2005
16	Standard Chartered Saadiq Berhad	Foreign, 2008

Source : Annual Report of Islamic Banks

Appendix B: (Correlation Matrix)

```
CORRELATIONS
  /VARIABLES=FGROW IF CAP SIZE InGDP InINF InOPR
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE.
```

Correlations

		FGROW	IF	CAP	SIZE	InGDP	InINF	InOPR
FGROW	Pearson Correlation	1	-.209	**-.226***	.044	.202	-.116	-.127
	Sig. (2-tailed)		.062	.044	.696	.072	.306	.261
	N	80	80	80	80	80	80	80
IF	Pearson Correlation	-.209	1	**.585****	-.069	.017	-.120	-.128
	Sig. (2-tailed)	.062		.000	.544	.884	.289	.258
	N	80	80	80	80	80	80	80
CAP	Pearson Correlation	**-.226***	**.585****	1	**.280***	-.056	.005	.002
	Sig. (2-tailed)	.044	.000		.012	.620	.965	.985
	N	80	80	80	80	80	80	80
SIZE	Pearson Correlation	.044	-.069	**.280***	1	-.064	.037	.035
	Sig. (2-tailed)	.696	.544	.012		.572	.745	.756
	N	80	80	80	80	80	80	80
InGDP	Pearson Correlation	.202	.017	-.056	-.064	1	**.291****	.012
	Sig. (2-tailed)	.072	.884	.620	.572		.009	.915
	N	80	80	80	80	80	80	80
InINF	Pearson Correlation	-.116	-.120	.005	.037	**.291****	1	**.650****
	Sig. (2-tailed)	.306	.289	.965	.745	.009		.000
	N	80	80	80	80	80	80	80
InOPR	Pearson Correlation	-.127	-.128	.002	.035	.012	**.650****	1
	Sig. (2-tailed)	.261	.258	.985	.756	.915	.000	
	N	80	80	80	80	80	80	80

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix C: (Heteroscedasticity Test)

```
. hettest IF CAP SIZE InGDP InINF InOPR

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: IF CAP SIZE InGDP InINF InOPR

         chi2(6)      =    66.09
         Prob > chi2  =   0.0000
```

Appendix D: (Auto Correlation Test)

```
. xtserial FGROW IF CAP SIZE InGDP InINF InOPR

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
    F(  1,     15) =      0.522
           Prob > F =      0.4813
```

Appendix E: (Hausman Test)

```
Fixed-effects (within) regression               Number of obs      =        80
Group variable: code                            Number of groups   =        16

R-sq:  within  = 0.1186                         Obs per group: min =         5
       between = 0.0380                                        avg =       5.0
       overall = 0.0195                                        max =         5

                                                F(6,58)            =      1.30
corr(u_i, Xb)  = -0.9449                        Prob > F           =    0.2711

------------------------------------------------------------------------------
       FGROW |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          IF |  -2.833292   2.268211    -1.25   0.217    -7.373609    1.707025
         CAP |   .8439295   3.002145     0.28   0.780    -5.165517    6.853376
        SIZE |   48.55756   62.22918     0.78   0.438    -76.00767    173.1228
       InGDP |   289.3882   154.9887     1.87   0.067    -20.85547    599.6318
       InINF |  -71.98572   49.12991    -1.47   0.148    -170.3299    26.35848
       InOPR |   -27.4385   193.2786    -0.14   0.888    -414.3276    359.4506
       _cons |   -1472.39   1052.027    -1.40   0.167    -3578.252    633.4713
-------------+----------------------------------------------------------------
     sigma_u |  31.878143
     sigma_e |   21.44394
         rho |  .68846592   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(15, 58) =     0.52                 Prob > F = 0.9176

. est store fe
```

```
. xtreg FGROW IF CAP SIZE GDP INF OPR, re

Random-effects GLS regression                   Number of obs      =        80
Group variable: code                            Number of groups   =        16

R-sq:  within  = 0.1055                         Obs per group: min =         5
       between = 0.3937                                        avg =       5.0
       overall = 0.1478                                        max =         5

                                                Wald chi2(6)       =     12.66
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0488

------------------------------------------------------------------------------
       FGROW |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          IF |  -1.271951   1.266264    -1.00   0.315    -3.753782     1.20988
         CAP |   -.825477   .7780381    -1.06   0.289    -2.350404    .6994497
        SIZE |   3.509388    4.03125     0.87   0.384    -4.391717    11.41049
       InGDP |   189.0004   85.31584     2.22   0.027     21.78443    356.2164
       InINF |  -45.69866   35.90193    -1.27   0.203    -116.0651    24.66783
       InOPR |  -30.02711   181.7864    -0.17   0.869    -386.3219    326.2677
       _cons |  -729.7052   370.6221    -1.97   0.049    -1456.111   -3.299234
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |   21.44394
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store re
```

```
. hausman fe re

                ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |       fe           re         Difference          S.E.
-------------+----------------------------------------------------------------
          IF |   -2.833292    -1.271951       -1.561341        1.881849
         CAP |    .8439295     -.825477        1.669406        2.899574
        SIZE |    48.55756     3.509388        45.04817        62.09847
       InGDP |    289.3882     189.0004        100.3878        129.3936
       InINF |   -71.98572    -45.69866       -26.28706        33.53803
       InOPR |    -27.4385    -30.02711        2.588612        65.65301
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        1.04
                Prob>chi2 =      0.9842
```

Appendix F: (Random Effect GLS Regression after Robustness Test)

```
. xtreg FGROW IF CAP SIZE InGDP InINF InOPR, re robust

Random-effects GLS regression                   Number of obs      =        80
Group variable: code                            Number of groups   =        16

R-sq:  within  = 0.1055                         Obs per group: min =         5
       between = 0.3937                                        avg =       5.0
       overall = 0.1478                                        max =         5

                                                Wald chi2(6)       =     67.87
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

                                    (Std. Err. adjusted for 16 clusters in code)
------------------------------------------------------------------------------
             |               Robust
       FGROW |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          IF |  -1.271951   .6796974    -1.87   0.061    -2.604133    .0602316
         CAP |   -.825477   .4810278    -1.72   0.086    -1.768274    .1173202
        SIZE |   3.509388    2.43919     1.44   0.150    -1.271337    8.290112
       InGDP |   189.0004   69.92273     2.70   0.007     51.95437    326.0465
       InINF |  -45.69866   10.68785    -4.28   0.000    -66.64645   -24.75087
       InOPR |  -30.02711   133.3385    -0.23   0.822    -291.3657    231.3115
       _cons |  -729.7052   250.0629    -2.92   0.004     -1219.82   -239.5909
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |   21.44394
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```